



- NOTES:
- THIS IS A UHV PART. A MULTIPLE STEP CLEANING PROCESS INVOLVING DEGREASING, WASHING AND DRY NITROGEN BLOW DOWN IS NEEDED BEFORE WELDING.
 - KEEP THE PART CLEAN, AND WRAP FOR UHV PACKING WITH ALUMINUM FOIL.
 - DEVICE SHALL BE LEAK TESTED USING A MASS SPECTROMETER WITH MINIMUM SENSITIVITY FOR HELIUM OF 2X 10⁻¹⁰ STANDARD CC/SEC PER LEAK METER DIVISION, SUCH AS:
ALCATEL ASM-110TCL
VARIAN NCR 925 OR 936
VEECO MS-9, MS-90 OR MS-18
Du PONT CEC 24-120B
CALIBRATION OF THE LEAK DETECTOR SENSITIVITY SHALL BE PERFORMED JUST PRIOR TO TESTING.
FINAL TEST WILL CONSIST OF SURROUNDING THE CHAMBER (BAGGING) WITH HELIUM. THE CHAMBER WILL BE REJECTED IF A 2% DEFLECTION IN THE MOST SENSITIVE RANGE OF THE LEAK DETECTOR IS SENSED WITHIN 1 MIN.
 - ALL DIMENSIONS WITH ARE IN MILLIMETERS
 - THE BELLOW & FLANGES ASSEMBLY SHALL BE LEAK TESTED FOR 14.7 PSI INTERNAL PRESSURE APPLICATION. IT SHALL BE DESIGNED FOR 500,000 CYCLES LIFETIME.
 - Ø .375 ROD HAS TO PASS THRU I.D. OF THE BELLOW.

SPECIFIED SOURCE:
(COM/VAT)
VAT INC.
600 WEST CUMMINGS PARK
WOBURN, MA 01801
TEL: (617)935-1446
(800)828-5625

4	REV. NO'S REM.; QTY 2 WAS 1;	J.G.	
4	304L SST WAS AM350;	J.G.	
3	VIEW ADDED; GEN. UPDATE;	J.G. J.C.	8/31/94
2	GEN. UPDATE;	J.G. J.C.	2/14/94
1	GEN. UPDATE;	J.G. J.C.	7/7/93
1	3.736 WAS 3.676;	J.G. J.C.	7/7/93
SYM	CHANGE DESCRIPTION	BY	CHKD DATE
REVISIONS			

4	P4105090103-810204	A3 31 mm STROKE BELLOW (COM/VAT)	304L SST	1
3	P4105090103-810203	A3 BELLOW & FLANGE ADAPTER	304 SST	2
2	P4105090103-810202	A3 8" NONROTATABLE FLANGE (MDC)	304 SST	1
1	P4105090103-810201	A3 4-1/2" NONROTATABLE FLANGE (MDC)	304 SST	1
ITEM	DWG/PART NUMBER	NOMENCLATURE OR DESCRIPTION	MATERIAL / SPEC	QTY
UNLESS OTHERWISE SPECIFIED: ALL DIMENSIONS ARE IN INCHES DECIMALS ANGULAR S - .0003 XX - .005 XXX - .005 SURFACE ROUGHNESS 125 / V REMOVE ALL BURRS AND BREAK SHARP EDGES TO MAX. SURFACE TEXTURE TO BE IN ACCORDANCE WITH LATEST AMS 441 DIMENSIONING & TOLERANCING IN ACCORDANCE WITH LATEST ASME Y14.5				
DRAWN BY J.G.		DATE 4/22/93	DESIGN ENGINEER D.SHU	DATE 5/3/93
CHECKED BY J.CHANG		DATE 4/29/93	GP LEADER T.M.KUZAY	DATE 5/5/93
DESIGNER J.G.		DATE 4/22/93	PROJECT MARK	
RESPONSIBLE ENGINEER J.CHANG		DATE 4/29/93	APPROVED/RELEASED	
MATERIAL SEE PARTS LIST		SCALE 1:1	SHEET 14	D
LOC NUMBER A1419004		PARTS LIST THIS DRAWING IS THE PROPERTY OF ARGONNE NATIONAL LABORATORY A3 LIGHT LOAD PNEUMATIC 31mm - 8" LINEAR ACTUATOR BELLOW & FLANGES WELDMENT ASSEMBLY		
DRAWING NUMBER A1419004		DRAWING NUMBER P4105090103-810200-04		